

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Case 767 PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2005/000089	International filing date (day/month/year) 27-01-2005	Priority date (day/month/year) 23-02-2004
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant Perstorp Compounds AB et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

Date of submission of the demand 08-09-2005	Date of completion of this report 30-05-2006
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International application No.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Cover sheet

International patent classification (IPC)

C08K 3/10 (2006.01)

C08L 61/20 (2006.01)

C08L 67/00 (2006.01)

C09D 161/20 (2006.01)

C09D 5/14 (2006.01)

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-16</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-16</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-16</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The claimed invention relates to use of a plastic composition for preparation of moulded products respectively lacquered or painted products. The aim of the invention is to provide the products with a surface having antiviral activity even against SARS coronavirus.

Reference is made to the following documents:

D1:WO 0179349 A1
D2:US 5393809 A
D3:DE 10138568 A1
D4:EP 0606762 A2

Documents D1 to D4 disclose moulded products made of a plastic composition containing a silver salt e.g. a silver nitrate, silver sulphate (see D2, claims 1, 4 and column 1, lines 7-15) or silver chloride (refer to D4, abstract, claims 1 and 9-12).

None of the cited documents discloses the use of a plastic composition for preparation of moulded products or lacquered or painted products provided with a surface having antiviral activity even against SARS coronavirus.

Accordingly, the invention defined in claims 1-16 is novel and is considered to involve an inventive step. The invention is industrially applicable.

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Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 7 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 8 - 10 received by this Authority on 24 - 03 - 2006
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages 1 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Claims

1. Use of a plastic composition comprising an effective amount of an inorganic derivative containing silver, including silver salts and silver containing complexes for preparation of moulded products respectively lacquered or painted products to provide them with a surface having antiviral activity even against SARS coronavirus.
2. Use of a plastic composition according to claim 1 wherein the plastic is a thermosetting resin.
3. Use of a plastic composition according to claim 2, wherein the thermosetting resin is an amino-resin such as urea-formaldehyde resin, melamine-formaldehyde resin, melamine-urea-formaldehyde resin or a polyester.
4. Use of a plastic composition according to claim 2 or 3 characterized that it is present as a solid moulding compound preferably in the form of powder, tablets, pellets or granules.
5. Use of a plastic composition according to claim 2 or 3 characterized in that it is present as a dry constituent in a powder coating.
6. Use of a plastic composition according to any one of claims 1-5 wherein the composition contains free formaldehyde or a formaldehyde containing compound which can release formaldehyde.
7. Use of a plastic composition according to any one of claims 1-4 which comprises at least one filler such as cellulose, glass fiber, carbon fiber, mica, lime and wood flour.
8. Use of plastic composition according to claim 2 or 3 wherein the thermosetting resin is present in liquid form, usually as a lacquer or paint, such as maleimide lacquer,

melamine-formaldehyde resin, urea-formaldehyde resin or melamine-formaldehyde resin.

9. Use of a plastic composition according to any one of claims 1-8 wherein the inorganic derivative containing silver is selected from the group consisting of silver sulfate, silver nitrate, silver chloride, silver-sodium-hydrogen-zirconium phosphate and silver sulfadiazine.
10. Use of a plastic composition according to claim 1 wherein the plastic is a thermoplastic, preferably selected from polyethylene, polypropylene, polystyrene, polyvinyl chloride or a linear polyester or a polyacrylate.
11. Use according to claim 10, wherein the thermoplastic is present as a foil or sheet.
12. Use of a plastic composition according to claim 10, characterized in that it is present as a so-called masterbatch in the form of pellets, granules or tablets.
13. Use of a plastic composition according to claim 10, wherein the thermoplastic is a polyacrylate or a linear polyester in liquid form as a lacquer or paint.
14. Use of a plastic composition according to any one of claims 1-11 and 13 wherein the content of inorganic silver derivative is present in an amount of 0.00001 to 0.10 parts by weight preferably 0.00003 to 0.001 parts by weight or rather 0.00005 to 0.0008 parts by weight calculated per part by weight of the whole composition.
15. Use of a plastic composition according to claim 12, wherein the masterbatch has a content of inorganic silver derivative of 0.02 to 0.30 parts by weight per part by weight of the whole masterbatch, which masterbatch might have a high content of pigment also and intended to be mixed with the major part of the thermoplastic before any moulding.

16. Use according to any one of claims 1-15, wherein the moulded products comprise sanitary articles, kitchenware, tableware, ornamental articles, electrotechnology components, thermosetting laminates and the like.